

**LISTING OF THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) For use in an ultra-wideband (UWB) communication system, a method for communicating binary data, having logical "0" and "1" value types, as a sequence of UWB pulses each including a carrier signal, the method comprising:

encoding binary data of one value type as positive UWB pulses and binary data of the other value type as negative UWB pulses having an inverted carrier phase; and

sensing whether a carrier phase of a received UWB pulse is inverted or not;

rectifying and filtering the received UWB pulse to provide a unidirectional signal;

adjusting the polarity of the unidirectional signal based on whether the sensed carrier phase is inverted or not; and

detecting the presence of positive and negative UWB pulses binary data of the adjusted unidirectional signal using a zero-amplitude sensing threshold, thereby increasing immunity to noise.

2-3. (Cancelled)

<sup>2</sup> 4. (Currently Amended) A method as defined in claim ~~[[3]]~~ 1, wherein:

the UWB pulses are generated in predetermined time slots; and

the method further comprises assigning portions of each time slot to respective communication channels, whereby data signals pertaining to multiple communication channels are transmitted in a single time slot.

<sup>3</sup> ~~5.~~ (Original) A method as defined in claim <sup>2</sup> ~~4~~, wherein:  
each UWB pulse time slot has two half time slots;

Serial No. 10/666,825

Docket No. NG(ST)7616

data signals pertaining to first and second communication channels are encoded in the first and second halves, respectively, of each UWB pulse time slot.